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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program And Other Distributed Generation Issues.	Rulemaking 12-11-005 (Filed November 8, 2012)

COMMENTS OF CUSTOM POWER SOLAR IN RESPONSE TO PROPOSED DECISION REVISING THE SELF-GENERATION INCENTIVE PROGRAM PURSUANT TO SENATE BILL 861, ASSEMBLY BILL 1478, AND IMPLEMENTING OTHER CHANGES

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I. INTRODUCTION

These comments are prepared by Custom Power Solar in response to the Proposed Decision Revising the Self-Generation Incentive Program Pursuant to Senate Bill 861, Assembly Bill 1478, and Implementing Other Changes, dated May 16, 2016. Custom Power Solar is a solar project developer committed to increasing solar deployment specializing in energy storage and EV charging capability in order to more rapidly decrease GHG production. We agree with many of the proposed changes and will indicate those in the comments to follow. However we will add comments on selected proposals. Overall we believe that the Proposed Decision will improve the Self

Generation Incentive Program, and help the program fulfill its legislative mission as directed by SB861 and AB1478.

2.3 Technology Eligibility Requirements

We have some concern about implementing the Societal Total Resources Cost Test (STRC) as a determining factor with regards to placement in the lottery system mentioned above. The Itron study, entitled the 2015 SGIP Cost Effectiveness Study, indicated that Advanced Energy Storage produces GHG's. This was based on pairing AES with natural gas as a power source. The alternative renewable approach to AES is to pair it with a renewable energy source. In the case of solar PV, there is no GHG produced by the solar PV system since it operates to capture energy from the sun. This is clearly stated on the Energy Information Administration (EIA) website:

"There are two main benefits of solar energy:

- Solar energy systems do not produce air pollutants or carbon dioxide.
- When located on buildings, solar energy systems have minimal impact on the environment.[1]"

Additional documentation of the beneficial effects of solar PV on reducing GHG's and criteria pollutants, with resulting decreased morbidity and mortality, and reducing water withdrawals with resulting reduced energy consumption are noted in the NREL publication "On the Path to Sunshot: The Environmental and

[1] From the US Energy Information Administration website "Solar Explained" at http://www.eia.gov/energyexplained/index.cfm?page=solar_home, accessed 6-05-16

Public Health Benefits of Achieving High Penetrations of Solar Energy in the United States" published May 2016. This document looks at the potential benefits of increasing solar penetration for years 2014 – 2030 and 2014 – 2050 using low, high and median range scenarios. It is instructive to note that as of 2014, California accounted for 2/3 of solar generation in the US, and 50% of the reduction in CO2, or about 8.5 MMT of CO2 per year. Pairing energy storage with solar PV does not generate GHG's; on the contrary the combination reduces CO2 production from alternative sources of electric generation, and reduces water use. [2] This has a large impact in California due to the drought. The combination also reduces criteria pollutants (Nox, Sox, ozone, and products of combustion, such as PM 2.5) which have been shown to affect cardiovascular and respiratory morbidity and mortality.

It appears that there may be a role for electric heat pumps, which may be powered with solar plus energy storage, and electric water heaters, which have been set to act as demand response sources. These technologies may play a role in reducing reliance on natural gas in the long run. If true, they should be considered for SGIP incentives in the future.

2.5 Minimum Zero Emission Fuel Blending Levels

[2] Wiser R, Mai T, Millstein D, Macknick J, Carpenter A, Coehn S, Cole W, Frew B, Health G, NREL, "On the Path to Sunshot; The Environmental and Public Health Benefits of Achieving High Penetrations of Solar Energy in the United States" Accessed at http://www.nrel.gov/docs/fy16osti/65628.pdf on 6-05-16.

We agree with the biogas fuel blending requirement that begins in 2017. The auditing process that is described has apparently been difficult to achieve in the past, so this will need to be monitored closely in the future.

2.6 Incentive Budget

We agree with the Proposed Decision to make additional funds available on a continuous basis with declining incentive levels based on the capacity reserved in the program at the levels indicated in the Proposed Decision. We agree with the Proposed Decision to separate energy storage and generation with the additional carve out of 10% from generation for wind generation projects and 15% of the energy storage budget for projects less than or equal to 10 kilowatts in size. We would prefer at least a 20% carve out for smaller projects to allow for future storage implementation to support the grid, given the nature of proposed changes and potential to provide load shifting and demand response in the future. We agree with the 75% energy storage and 25% generation division of SGIP funding. This is in line with and justified by both recent historical events, and the proposed changes in electricity generation/market transformation that are being structured on a state and regional level. [3]

We agree with instituting a lottery process to replace the first-come, first-served process which has proven to be so problematic. This process would only be used when needed on a given day when applications are greater than the amount available in a tier. We agree with a plan that will place applications in a queue for a

[3] Greentech Media US Energy Storage Monitor Q2-2016 Executive Summary accessed at http://www.greentechmedia.com/research/subscription/u.s.-energy-storage-monitor - accessed 6-05-16

spot on a tier level in a continuum based on attributes of the project related to specific project goals such as GHG reduction and grid benefits. We believe that projects that are already completed should be given priority in the lottery process. Projects will be placed in the queue that is appropriate to that project technology and, in the case of storage, by size (less than or equal to 10 kW) and whether residential or commercial. In addition we feel that projects that are already completed, especially residential projects, should be allocated additional points and a priority position in the queue. Providing this adder will reward project developers and owners with completed projects reducing GHG's and hopefully reduce the number of projects that have filed applications only to withdraw them later, resulting in otherwise worthy projects failing to be funded. Providing some certainty as to funding can help incentivize the residential sector. In addition we agree with the Proposed Decision to increase the rate of the residential storage incentive compared to commercial storage systems.

2.7 Incentive Design

We agree with the Proposed Decision to change the incentive reward system from based on kW size to kWh, such that the quantity of kWh associated with a given energy storage project will determine the incentive that the project receives. In addition we agree with setting a slightly higher incentive for small scale energy storage projects i.e., less than or equal to 10 kW to support market development of residential energy storage.

2.9 Load-Based Rebate Caps

With regard to the Load-Based Rebate Caps for Paired Storage, we agree with the clarification of this area to link the storage device size to project load. However the 2015 Handbook for SGIP state that if no peak demand (kW) is indicated for the system from prior bills, a peak demand should be calculated using a formula given in section 4.4.4.

> "4.4.4 System Sizing for Projects without Peak Demand Information
>
> Sites with 12-months of previous energy usage data (kWh) but without peak demand (kW) information available (e.g., customers on rate schedules without a demand component) will have an equivalent peak demand calculated using the following method:
>
> Peak Demand (kW) = Largest Monthly Bill (kWh/month) / (Load Factor x Days/Bill X 24)
>
> Residential Load Factor = .43
>
> Commercial Load Factor = .55
>
> Industrial Load Factor = .76
>
> Agricultural Load Factor = .63
>
> The resulting annual peak demand estimate should be used to determine system sizing for the proposed technology."

The Residential Load Factor should be 0.20 rather than 0.43 to enable the storage to more closely approximate the actual load for a typical residential customer. Additionally we agree with Green Charge Networks that a 10% buffer be added for extra flexibility. This will further ensure adequate storage over time and may

help provide a resource for additional loads not yet added to the system, such as an electric vehicle. Since about 37% - 40% of the GHG's in California come from transportation, we should not only incentivize solar plus storage, we should incentivize EV charging at the same time. Over the next few years there will be a new crop of EV's with lower price points and longer ranges: providing a solar and home-based energy source may help people move from fossil fuel combustion to solar-powered cars.

2.13 Dual Participation in Demand Response Programs

We agree with the ruling that supported continuing to allow dual participation in SGIP and demand response programs and agree that a single action (i.e. discharge) should not receive payment from more than one source for the same event.

2.14.2 Installer/Developer Cap

We agree with the project developer cap that will be applied on a statewide basis, replacing the prior 40% manufacturer's cap, which apparently proved to be problematic.

2.15 California Supplier Adder

The California Supplier Adder requirement to show at least 50% value added in California should help maintain a sense of integrity in the adder. However the third-party certification service should be chosen with an eye to restraining the cost of the certification for the manufacturer.to a reasonable amount, so that the program does not unduly penalize smaller manufacturing companies. There needs

to be a similar concern regarding the safety certification program which has been proposed.

2.16 Treatment of DC Micro-Grids

We support the determination to continue to keep components of DC Micro-grids eligible for SGIP incentives without a micro-grid adder. This is a reasonable addition to help reduce GHG's in California as rapidly as possible.

2.17 Energy Efficiency Audit Requirements

The Energy Efficiency Audit requirement was implemented in order to advise the system or property owner regarding the most cost-efficient energy efficiency actions that they could take to reduce the overall load – on the grid and also on the property. It still serves an important function but may not prompt any change in behavior without some further incentive to do so. There may be a way to link the property owner with utility or community resources to incentivize energy efficiency. This may be something to take up in a future workshop, such as the one that has been indicated for determining if marketing efforts for SGIP are warranted.

2.18 Storage Operating Requirements

We agree with the PD determination for a 260-hour dispatch for commercial systems, while the residential dispatch remains an average of 2 hours per week for a total of 104 hours per year. Increasing the requirement for dispatch for residential customers with little understanding of the term or the rationale could be considered a barrier from the point of view of the customer.

2.19 Second Life Batteries

From the point of view of sustainability, it makes sense to use second life batteries, such as the ones removed from EV's, provided that they carry a warrantee from a reputable company, such as Nissan. Batteries are improving, and given the decreased cost, and for most of the available batteries, proven reliability, these batteries may make energy storage a more viable product for a larger population base than are able to afford the present generation of energy storage battery devices. We believe that this should be considered a viable alternative. In fact, there may be role for these sustainably sourced batteries in multifamily homes and/or disadvantaged communities, with potential funding through other available programs. Possibly some consideration should be given to a rebate at a lower level for these sustainably sourced batteries, provided they come with a reasonable warranty.

2.21 Measurement and Evaluation and Public Reporting

We support the measurement and evaluation of the SGIP program. In addition we agree that there should be online public reporting of the performance for participants receiving PBI payments including Combined Heat and Power.

2.22 Marketing and Outreach

Given the potential expansion of the SGIP program to under-served communities that might be possible with an effective marketing and outreach program, it makes sense to consider this option. The general consensus that has been repeated over and over is that the programs that support renewable energy (and EV's) benefit the wealthy and the middle class. We have a short timeline to effectively reduce GHG

emissions. Along with growth of the industry will come growth in jobs related to the industry. One of the goals of such a marketing and outreach program should be to involve bringing jobs as well as projects to under-served communities. Prospective funding sources such as AB32, SB535, AB693 and other legislative mandates, will make it possible to expand the benefits of renewable energy and reductions in GHG's to a larger segment of the population. It is certainly within the mandate of the CPUC to increase the availability of the benefits of distributed renewable energy, reduced cost, grid reliability, load shifting, improved health due to decreased air pollution, and access to an alternative to fossil fuel transportation.

3 SUMMARY

We thank the Commission, ALJ Regina de Angelis, ALJ Michelle Cook, and President Picker for this opportunity to provide comments on the Proposed Decision Revising the Self Generation Incentive Program.

Respectfully submitted,

/s/Jean Woo_____.
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Custom Power Solar

June 6, 2016